

REMARKS

This paper is responsive to the Office Action mailed March 24, 2005. In the Office Action, the U.S. Patent and Trademark Office (hereinafter "the Office") rejected Claims 11, 14-17, 28, 29, and 38 under 35 U.S.C. § 102(e) as being anticipated by O'Toole (U.S. Patent No. 6,130,602). Claim 30 was rejected as being anticipated by Freeze et al. (U.S. Patent No. 6,313,737). Claims 1-10, 31-33, and 35-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over O'Toole in view of Cato (U.S. Patent No. 5,539,394) and Snodgrass (U.S. Patent No. 5,841,770). Claims 18 and 19 were rejected as being unpatentable over Caswell (U.S. Patent No. 5,231,273) in combination with Gehman (U.S. Patent No. 3,750,167). Claims 12, 13, and 20-27 were rejected as being unpatentable over O'Toole in view of Caswell in combination with Gehman. Lastly, Claim 34 was rejected as being unpatentable over O'Toole, Cato, and Snodgrass in view of Fogg (U.S. Patent No. 4,479,194).

Applicant has carefully reviewed each of the cited references and the comments presented in the Office Action. Applicant submits that the Office has erred in rejecting Claims 1-38 for reasons discussed below. Reconsideration of the application and allowance of the claims is respectfully requested.

Claims 1-30 and 32-38 remain pending in the application. Claims 31 and 32 have been canceled solely to reduce the number of claims and not for any purposes related to patentability. New Claims 39-49 have been added.

Claim Rejections Under 35 U.S.C. § 102(e)

In the Office Action, the Office rejected Claims 11, 14-17, 28, 29, and 38 as being anticipated by O'Toole. The Office has erred in this regard. To reject a claim based on anticipation, the Office must identify a reference that teaches each and every element as recited in the claim at issue. The Office has not done that in this regard.

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Claim 11 is directed to an interrogator for communicating with an RFID transponder in an RFID system. The claimed interrogator includes, in part, "a transmitter coupled to said at least one antenna and configured to transmit an FSK modulated spread spectrum signal on said at least one antenna during a transmitting mode and a BPSK modulated spread spectrum signal during a receiving mode." The interrogator further includes "a receiver coupled to said at least one antenna and configured to receive a spread spectrum signal in PSK format." Further, the claimed interrogator includes "a controller coupled to said transmitter and said receiver and configured to control said transmitter and said receiver."

The Office has not indicated how O'Toole anticipates each and every one of the elements recited in Claim 11. In the Office Action, the Office merely states that "O'Toole discloses an RFID interrogator with various transmission formats including FSK and various reception formats including BPSK." This does not demonstrate a *prima facie* case of anticipation. Applicant has carefully reviewed the O'Toole reference and submits that O'Toole does not, in fact, disclose all of the elements of Claim 11. Lacking a teaching or suggestion of all of the elements of Claim 11 as set forth in the present application, O'Toole does not anticipate Claim 11 and, thus, cannot be used as a basis for rejection of the same. Claim 11 should be allowed.

Claims 14-17 and 38, also rejected as being anticipated by O'Toole, are ultimately dependent from Claim 11. Claims 14-17 and 38 set forth additional elements that are not taught or suggested by O'Toole, nor are addressed in the Office Action. For their dependence on allowable Claim 11, and for the additional subject matter recited therein, Claims 14-17 and 38 are also allowable.

Independent Claims 28 and 29 are directed to a method and apparatus for generating a random number that may be used in an RFID transponder. The claimed method includes "calculating a random seed based upon a difference between a local clock signal and a clock

signal derived from either a received signal or random noise," "supplying said random seed to a random number generator," and "generating a random number based upon said random seed." The claimed apparatus includes "a first clock input derived from a local clock oscillator," "a second clock input derived from a received signal or random noise," and "means coupled to said first clock input and said second clock input for generating a random number based upon a timing difference between said first clock input and said second clock input."

Applicant submits that careful consideration of the O'Toole reference leads to the conclusion that O'Toole does not teach or suggest the method and apparatus recited in Claims 28 and 29. While O'Toole discloses methods of generating a pseudo random number that use a linear feedback shift register, the methods and apparatus taught by O'Toole do not anticipate Claims 28 and 29. In one aspect, O'Toole fails to teach or suggest the generation of a random number from a random seed "based upon a difference between a local clock signal and a clock signal derived from either a received signal or random noise." In another aspect, O'Toole fails to teach or suggest "means coupled to said first clock input and said second clock input for generating a random number based upon a timing difference between said first clock input and said second clock input." Claims 28 and 29 recite patentable subject matter and should be allowed.

In the Office Action, the Office rejected Claim 30 as being anticipated by the '737 patent to Freeze et al. Applicant submits that the Freeze patent does not teach or suggest each and every element of Claim 30, and, thus, does not anticipate Claim 30. Claim 30 is directed to a method for controlling a plurality of groups of interrogators in an RFID system. The method includes "arranging interrogators within a group of interrogators in nearest neighbor format having a predetermined order," and "activating only corresponding interrogators within the

groups of interrogators for transmission of signals to at least one RFID transponder within a zone covered by said respective activated interrogators."

The Office Action cites the Freeze patent for its disclosure of "activating interrogators in groups." However, this characterization does not state a *prima facie* case for anticipation. Closer inspection of the '737 patent to Freeze indicates that it does not, in fact, anticipate each and every element of Claim 30. Accordingly, Claim 30 should be allowed.

Claim Rejections Under 35 U.S.C. § 103(a)

In the Office Action, the Office rejected Claims 1-10, 31-33, and 35-37 as being unpatentable over O'Toole in view of Cato and Snodgrass. Applicant has carefully reviewed each of the O'Toole, Cato, and Snodgrass references and submits that the references taken alone or in any combination do not render obvious the subject matter set forth in the referenced claims.

Applicant has studied the O'Toole, Cato, and Snodgrass references and finds no teaching or suggestion of all of the elements of Claim 1. For example, Claim 1, in part, recites an RFID system in which a "host computer is configured to identify a unique identification code associated with each of said plurality of RFID transponders by iteratively transmitting a message including a variable having a predetermined value to said RFID transponders." As further recited in Claim 1, "only said RFID transponders which generate a random number greater than said variable respond to said message by transmitting the identification codes associated with said respective RFID transponders." While Cato discloses a system using a hashing base number to vary a response time slot, applicant finds no teaching or suggestion in O'Toole, Cato, or Snodgrass to modify the use of a hashing base number, as used by Cato, to instead be treated as a predetermined value for a greater-than comparison to a random number, as recited in Claim 1.

Moreover, there is no teaching or suggestion in the references to modify a binary tree search system as taught by Snodgrass, which uses a branch number, an arbitration number and

mask number to determine if a responder station has been addressed (thereby enabling a response), to instead be used to determine if a random number, as claimed, is greater than a variable having a predetermined value. As a consequence, the varied disclosures of the O'Toole, Cato, and Snodgrass references cannot be combined to achieve the claimed invention, especially if the Office only uses that which is disclosed in the references and does not use the present application as a blueprint. Claim 1 is patentable over the cited references and should be allowed. Claims 2-6, 35, and 36, which depend from Claim 1, should also be allowed for their dependence on an allowable claim and for the additional subject matter recited therein.

The Office Action did not separately address independent Claims 7 and 9. Nevertheless, applicant has carefully considered all of the elements recited in these independent claims, as well as the dependent Claims 8 and 10, respectively, and does not find any disclosure in the O'Toole, Cato, and Snodgrass references that can be combined to render obvious each and every element of Claims 7-10. Accordingly, Claims 7-10 should be allowed.

Claims 31 and 32 have been canceled without prejudice. The rejection of said claims is now moot.

The method recited in independent Claim 33 should also be allowed over O'Toole, Cato, and Snodgrass for reasons set forth above; that is, that the cited references fail to teach or suggest each and every element of Claim 33. In the Office Action, the Office did not address the elements of this claim and has not stated a *prima facie* case of obviousness. Withdrawal of the rejection of Claims 33 is appropriate and warranted.

Independent Claim 37 was also rejected as being unpatentable over O'Toole in view of Cato and Snodgrass. As with the claims discussed above, the Office did not separately treat Claim 37 and failed to show how each and every element of Claim 37 is taught or suggested by a combination of the cited references. Applicant has carefully considered each of the cited

references in view of Claim 37 and submits that Claim 37, in fact, sets forth subject matter that is patentable over the cited references. In short, applicant cannot find a teaching or suggestion in any combination of the references that renders obvious the combination of elements recited in Claim 37. Allowance of Claim 37 is requested.

The Office Action rejected Claims 18 and 19 as being unpatentable over Caswell in combination with Gehman. Applicant has amended Claims 18 and 19 to further patentably distinguish the claims over the Caswell and Gehman references. In particular, applicant points out that Caswell teaches the use of either an antenna "ANT 1" or antenna "ANT 2" that are connected by an antenna switch 701 to a single transceiver section 705. Caswell does not propose using both antennas at the same time, one designated for connection to a transmitter and the other designated for connection to a receiver. The postal tracking system disclosed by Gehman uses three antennas 32, 34, and 36 that are simultaneously used to provide a linearly polarized pattern of radiation. The disclosure of Gehman does not cure the deficiency of Caswell in that Gehman does not teach or suggest a system in which one antenna, which is selectively coupled to a transmitter, is orthogonally polarized with respect to a second antenna that is coupled to a receiver. In Gehman, the antennas 32, 34, and 36 are connected only to the transmitter 63 and not to the receiver 65. The receiving antenna 50 is connected to the receiver of the tracking station. For at least the these reasons, Claims 18 and 19 are patentably defined over the Caswell and Gehman references and should be allowed.

The Office Action rejected Claims 12 and 13 as being obvious in view of O'Toole in combination with Caswell and Gehman as discussed above. Applicant notes that Claims 12 and 13 are dependent on allowable Claim 11, discussed above, and for that reason should be allowed. Moreover, applicant submits that Claims 12 and 13 recite an arrangement of subject matter that

is not obvious over the switch arrangement of Caswell in view of Gehman. Allowance of Claims 12 and 13 is requested.

Claims 20-27 were also rejected as being obvious in view of O'Toole in combination with Caswell and Gehman. Closer inspection of the cited references, however, indicates that independent Claim 20 sets forth subject matter that is not taught or suggested by the combination of O'Toole, Caswell and Gehman. For the convenience of the Examiner, Claim 20 is repeated as follows:

20. (Currently amended) A transponder for communicating with an interrogator in an RFID system, comprising:

a first antenna element having a first predetermined dimensional configuration;

a second antenna element having a second predetermined dimensional configuration;

an impedance modulator coupled between said first antenna element and said second antenna element which causes said first antenna element to be electrically coupled to said second antenna element in a first state and to be electrically isolated from said second antenna element in a second state;

a receiver configured to receive a message within an FSK modulated spread spectrum signal, said receiver being coupled to said first antenna element, said second antenna element and said impedance modulator; and

a controller coupled to said receiver, said controller being configured to receive said message and selectively respond to said

message in PSK format by reflecting an illumination signal transmitted by said interrogator by selectively switching said impedance modulator between said first state and said second state.

Applicant respectfully submits that the O'Toole, Caswell, and Gehman references do not teach or suggest each and every element of Claim 20 as set forth above, and the Office Action provides no separate discussion to the contrary. Claims 21-27 are further allowable for their dependence on Claim 20 and for the additional subject matter recited therein. Applicant respectfully submits that the subject matter set forth in Claims 21-27 is not obvious in view of the cited references. Having failed to state a *prima facie* case of obviousness, the Office should withdraw the rejection of Claims 20-27 and allow the same to issue.

Claim 34 was rejected as being unpatentable over O'Toole, Cato, Snodgrass, and Fogg. The Office cites the Fogg patent for its disclosure of an election ballot with a barcode for identification. However, applicant submits that the use of barcode identification as taught by Fogg is inapplicable to Claim 34. In one aspect, a barcode does not include a memory that can be controlled for the storage of election data associated with said ballots. Furthermore, Fogg's disclosure of a barcode does not cure the many deficiencies of the O'Toole, Cato, and Snodgrass references as discussed above, particularly in reference to Claim 1. For the foregoing reasons, applicant submits that Claim 34 is, in fact, patentable over the cited art and should be allowed.

As a final matter, new Claims 39-49 have been added. Support for the new claims is found in the detailed description of the preferred embodiments. See, e.g., pages 25 and 26 (among others) of the application as filed. Claims 39-49 are patentable over the cited art.

CONCLUSION

Because the Office has failed to state a *prima facie* case of anticipation or obviousness for each of the claims in the present application, the claim rejections should be withdrawn.

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Claims 1-30 and 33-38 are patentably distinguishable over the cited and applied references. Consequently, reconsideration and allowance of Claims 1-30 and 33-38 is respectfully requested. Claims 39-49 are also patentably distinguishable over the cited and applied references and should be allowed. Should the Office identify any further matters needing resolution prior to allowance of the application, the Office is invited to contact applicant's attorney at the telephone number indicated below.

Respectfully submitted,

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